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MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			MA, JOHNNY	
			ART UNIT	PAPER NUMBER
			2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/583,388	Applicant(s) GORDON ET AL.	
	Examiner Johnny Ma	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-6 and 9 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's traversal of the Official Notice statement taken by the examiner, "it is notoriously well known in the art of video encoding to use low-pass filtering for the purpose of facilitating the separating of background information and graphics," note the Vasconcelos reference teaching pre and post-filtering for low bit-rate video coding. The Vasconcelos reference discloses pre-filtering to eliminate as much high frequency information as possible without compromising image quality and aims to eliminate high frequency sensor noise to avoid blurring of object boundaries (Vasconcelos, see Section 2. Pre-Filter). The Vasconcelos reference further discloses the use of low-pass filtering in the pre-filtering step (Vasconcelos, see Section 2. Pre-Filter).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 6,606,746 B1) in further view of Lee et al. (US 5,748,789).

As to claim 1, note the Zdepski et al. reference that discloses an interactive television system and method for displaying a graphical user interface using insert pictures wherein the

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audiovisual data is MPEG compressed (Zdepski et al. 7:15-20). The claimed “encoding a non-blank background for the information section” is met by providing compressed insert pictures representing a display portion of a GUI (Zdepski et al. 2:51-54). The claimed blank background for the display section is met by the Zdepski et al. compressed background picture (Zdepski et al. 2:51-54). However, the Zdepski et al. reference does not specifically disclose encoding a blank background for the display section by skip encoding, when subsequent values of the display section do not change from corresponding intra-coded values at a predetermined time. Now note the Lee et al. reference discloses transparent block sipping in object-based video coding systems wherein “[c]ompression of video information (i.e., video sequences or signals) can provide economical storage and transmission of digital video information in applications that include, for example, interactive or digital television and multimedia computer applications...Conventional video compression techniques utilize similarities between successive image frames, referred to as temporal or interframe correlation, to provide interframe compression in which pixel-based representations of image frames are converted to motion representations. In addition, conventional video compression techniques utilize similarities within image frames, referred to as spatial or intraframe correlation, to provide intraframe compression in which the motion representations within an image frame are further compressed” (Lee 7:47-65).

The claimed “skip encoding, when subsequent values of the display section do not change from corresponding intra-coded values at a predetermined time” is met by “[o]nce these transparent macroblocks and blocks are identified, the coder and decoder can skip coding for these macroblocks or blocks. Skipping of transparent information blocks applies when the entire transformation block is transparent...An example of a transparent macroblock is macroblock

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1548, which lies entirely outside object 1540” (Lee 43:63-44:44:6). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. blank background with the Lee et al. skip encoding for the purpose of providing economical storage and transmission of graphical user information to the user. Note the skipping of transparent macroblocks, i.e. the background, equates to the skip encoding of the subsequent values of the display section that do not change.

As to claim 5, the claimed “where the user interface is encoded at a server for display at a client terminal” is met by “...the video delivery system provides a compressed background picture and one or more compressed insert pictures. Each of the compressed insert pictures represents a display portion of the GUI. The subscriber television receives the compressed background picture and the one or more compressed insert pictures...decodes the compressed background picture including the at least one compressed insert picture and displays...wherein this displaying operates to display the GUI” (Zdepski et al. 2:51-65). Note the claimed server is met by the video delivery system that serves the GUI information.

As to claim 6, the claimed where the server is located at a headend of a cable TV distribution system. Please see rejection of claim 5.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 6,606,746 B1) in further view of Lee et al. (US 5,748,789) and Ribas-Corbera et al. (US 2002/0122598).

As to claim 2, the claimed “where encoding the information section includes quantizing a transformed image using a quantizer step size that is relatively low so as to substantially maximize a bit rate allocated to the information section.” Note, the Zdepski et al. reference

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discloses MPEG compression of IPG audiovisual information (Zdepski et al. 2:51-65; 7:6-20; 16:45-67), where quantization is inherent to the MPEG compression method. However, the Zdepski et al. reference does not specifically disclose using a quantizer stepsize that is relatively low so as to substantially maximize a bitrate allocated to the information section. Now note, the Ribas-Cobera et al. reference which discloses “[c]alculating bit allocation only with the remaining blocks increases the quality in the encoded image by not pre-allocating bits to blocks that will be discarded” (Ribas-Cobera et al. [0074]) where a relatively low quantizer step size is inherent to the improvement of image quality. Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the Zdepski et al. MPEG encoding with the Ribas-Cobera calculating bit allocation only with the remaining blocks for the purpose of providing “more efficient bit rate control by not allocating bits to blocks or frames that should not be encoded” (Ribas-Cobera et al. [0014]) and the improvement of image quality (Ribas-Cobera et al. [0074]).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 6,606,746 B1) in further view of Ribas-Corbera et al. (US 2002/0122598), Alexander et al. (US 6,177,937 B1), and Lee et al. (US 5,748,789).

As to claims 3 and 4, note the Zdepski et al. reference discloses graphical user interface that may be used for in a number of different interactive television applications such as game shows, advertising, video-on-demand and others (Zdepski et al. 6:66-67; 7:1-3). Also note, the Zdepski et al. reference also discloses “[t]he user can select desired television channels for viewing or provide various interactive selections. According to the present invention, the user can interact with the GUI displayed on the television screen to interact with or control an

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interactive application executing on the subscriber television, or to control other functions associated with the subscriber television, such as channel selection, volume, etc. The user can also selectively configure a graphical user interface (GUI) on the display screen using the present invention” (Zdepski et al. 6:14-24). However, the Zdepski et al. reference does not specifically disclose an interactive program guide. Now note the Alexander et al. reference that discloses systems and methods for displaying and recording control interface with television programs, video, advertising information and program scheduling information. The claimed “where the user interface comprises an interactive program guide, where the information section comprises a program grid section, and where the display section comprises a multimedia section” is met by interactive program guide and multimedia windows as illustrated in Figure 5 (Alexander et al.). The claimed “where the user interface comprises an interactive program guide, where the information section comprises a program grid section, and where the display section comprises a multimedia section” is met by striped background grid as illustrated in Figure 5 (Alexander et al.). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. and Ribas-Cobera et al. combination with the Alexander et al. interactive program guide for the purpose of facilitating the selection of programming wherein a user may more readily identify programming of interest and execute other television functions such as recording.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 6,606,746 B1) in further view of Ribas-Corbera et al. (US 2002/0122598), Alexander et al. (US 6,177,937 B1), Vasconcelos (“Pre and Post-Filtering For Low Bit-Rate Video Coding) and Lee et al. (US 5,748,789).

As to claim 9, note the Zdepski et al. reference discloses an interactive television system and method for displaying a graphical user interface using insert pictures comprising a information section and display section (Zdepski et al. 2:51-54). The Zdepski et al. reference also discloses background and insert pictures are MPEG compressed (Zdepski et al. 16:54-57). However, the Zdepski et al. reference does not disclose a means for compressing a video bitstream or the use of low-pass filtering to reduce visual defects. Now, note the Ribas-Corbera et al. reference which discloses a method and apparatus for selecting image data to skip when encoding digital video using macroblocks. The claimed “forward transforming a source image of the information section to generate a transformed image” is met by “[t]he pixel values of the block 14 are transformed in transform 16 into a set of coefficients, for example using a Discrete Cosine Transform (DCT)” (Ribas-Corbera et al. [0029]). The claimed quantizing to generate a quantized image and “encoding the quantized image to generate an encoded image of the information section” is met by “[t]he coefficients output from transform 16 are quantized in quantizer 18 according to a set of quantization values 22 and further encoded in coder 20” (Ribas-Corbera [0029]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. MPEG encoding with the Ribas-Cobera block skipping for the purpose of providing “more efficient bit rate control by not allocating bits to blocks or frames that should not be encoded” (Ribas-Cobera et al. [0014]). Also note the Zdepski et al. reference also discloses “[t]he user can select desired television channels for viewing or provide various interactive selections. According to the present invention, the user can interact with the GUI displayed on the television screen to interact with or control an interactive application executing on the subscriber television, or to control

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other functions associated with the subscriber television, such as channel selection, volume, etc.

The user can also selectively configure a graphical user interface (GUI) on the display screen using the present invention” (Zdepski et al. 6:14-24). However, the Zdepski et al. reference does not specifically disclose background stripes such as those found in an interactive program guide.

Now note the Alexander et al. reference that discloses systems and methods for displaying and recording control interface with television programs, video, advertising information and program scheduling information. The claimed “where the information section includes background stripes” is met by striped background grid as illustrated in Figure 5 (Alexander et al.). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. and Ribas-Cobera et al. combination with the Alexander et al. interactive program guide for the purpose of facilitating the selection of programming wherein a user may more readily identify programming of interest and execute other television functions such as recording. Further note the Zdepski et al. reference is also silent as to the use of low-pass filtering. Now note the Vasconcelos reference teaching pre and post-filtering for low bit-rate video coding. The Vasconcelos reference discloses pre-filtering to eliminate as much high frequency information as possible without compromising image quality and aims to eliminate high frequency sensor noise to avoid blurring of object boundaries (Vasconcelos, see Section 2. Pre-Filter). The Vasconcelos reference further discloses the use of low-pass filtering in the pre-filtering step (Vasconcelos, see Section 2. Pre-Filter). The claimed low-pass filtering reduces visual defects from encoding of the background stripes is met by the disclosed filtering to avoid blurring of object boundaries. Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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modify the Zdepski et al., Ribas Cobera et al. and Alexander et al. electronic program guide transmission scheme accordingly for the purpose of facilitating the separating of background information and graphics. Furthermore, the Zdepski et al. reference does not specifically disclose encoding a blank background for the display section by skip encoding, when subsequent values of the display section do not change from corresponding intra-coded values at a predetermined time. Now note the Lee et al. reference discloses transparent block sipping in object-based video coding systems wherein “[c]ompression of video information (i.e., video sequences or signals) can provide economical storage and transmission of digital video information in applications that include, for example, interactive or digital television and multimedia computer applications... Conventional video compression techniques utilize similarities between successive image frames, referred to as temporal or interframe correlation, to provide interframe compression in which pixel-based representations of image frames are converted to motion representations. In addition, conventional video compression techniques utilize similarities within image frames, referred to as spatial or intraframe correlation, to provide intraframe compression in which the motion representations within an image frame are further compressed” (Lee 7:47-65). The claimed “skip encoding, when subsequent values of the display section do not change from corresponding intra-coded values at a predetermined time” is met by “[o]nce these transparent macroblocks and blocks are identified, the coder and decoder can skip coding for these macroblocks or blocks. Skipping of transparent information blocks applies when the entire transformation block is transparent... An example of a transparent macroblock is macroblock 1548, which lies entirely outside object 1540” (Lee 43:63-44:44:6). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time

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the invention was made to modify the Zdepski et al. blank background with the Lee et al. skip encoding for the purpose of providing economical storage and transmission of graphical user information to the user. Note the skipping of transparent macroblocks, i.e. the background, equates to the skip encoding of the subsequent values of the display section that do not change.

Allowable Subject Matter

7. Claim 8 is allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art, alone or in combination, does not teach or fairly suggest “where the macroblocks do not cross any border between two adjacent background stripes.”

9. The Barton et al. reference, the most relevant art of record, discloses teaches “data encoding technique must survive various artifacts of video handling in the chain. A preferred embodiment of the invention places block-sized single color images in the frame 901 aligned to macroblock boundaries, in a checkerboard fashion” which is understood that macroblocks do not cross borders of the checkered pattern (Barton et al. [0056]). The Barton et al. reference also teaches “[s]quare blocks of a multiple of macroblock size are used such that a phase encoding is achieved which is easily detected during a single pass over the MPEG bitstream (Barton et al. [0017]). However, the Barton et al. reference is directed towards an analog video tagging and encoding system in which an analog tag frame is inserted into an analog video stream and does not teach a user interface having an information section having background stripes and a display section as recited in claim 8.

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10. The Alexander et al. reference (US 6,177,931 B1) discloses systems and methods for displaying and recording control interface with television programs, video, advertising information and program scheduling information. The Alexander et al. reference discloses an interactive program guide with a information and display section wherein the information section comprises adjacent background stripes. However, the Alexander et al. reference does not teach the use of macroblocks and the encoding process.

11. The Zdepski et al. reference (US 6,606,746 B1) discloses an interactive television system and method for displaying a graphical user interface using insert pictures. The Zdepski et al. reference discloses MPEG compression of background and insert pictures. The Zdepski et al. reference also discloses macroblocks. However, the Zdepski et al. reference alone or in combination fails to teach macroblocks that do not cross any border between two adjacent background stripes.

The Ribas-Corbera et al. reference (US 2002/0122598 A1) discloses a method and apparatus for selecting image data to skip when encoding digital video. The Ribas-Corbera et al. reference discloses dividing into macroblocks wherein in block-based image coding, the image frame 11 to be encoded is decomposed into multiple image blocks 14 of the same size, typically of 16x16 pixels per block 14. The Ribas-Corbera et al. also discloses generating a transformed image where the pixel values of the block 14 are transformed in transform 16 into a set of coefficients. The Ribas-Corbera et al. reference also discloses quantizing the transformed image to generate a quantized image and encoding the quantized image to generate an encoded image of each macroblock where the coefficients output from transform 16 are quantized in quantizer 18 according to a set of quantization values 22 and further encoded in coder 20. However, the

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Ribas-Corbera alone or in combination fails to disclose “where the macroblocks do not cross any border between two adjacent background stripes.”

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Shachar et al. reference (US 6,560,280 B1) discloses a video transmission system.

The Jozawa et al. reference (US 6,785,331 B1) discloses predictive encoding and decoding methods of video data.

The Katata et al. reference (US 6,088,061) discloses a video coding device and video decoding device.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny Ma whose telephone number is (703) 305-8099. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jm


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